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COHERENT LIGHT ENLARGER

8th Progress Report 11 Jan. to 10 Feb. '64

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Progress continued at a steady pace. We had a two day visit by our customer during which our efforts were reviewed in great detail and found to be satisfactory. In particular, the customer inspected the briefing material we had assembled and suggested some additions; these are now being prepared and will be forwarded shortly.

The most significant event during this period was the addition of a full-time senior optical engineer to strengthen the project group. He will prepare specifications and perform tests. The assistance we had been receiving from the [] in this same category has continued so that our capabilities in this direction are now very strong.

Several of the lens elements have been completed (less coating) and delivered but as yet no lenses have been assembled. The present schedule calls for delivery of the last element by 28 February which will allow nine weeks for optical assembly, test and coating if required. (Coating reduces unwanted reflections but increases scattered light.) Thus, if uncoated elements are satisfactory, they will be used. If not, coatings will be employed.

Drafting effort has not yet been completed as predicted because of an unusual number of minor alterations. These lie partly in the area of sheet metal coverings and partly in the area of electrical controls. Drafting effort should definitely be completed during the next progress period. This has no impact on schedule.

Since the prototype enlarger is intended to provide a maximum of experimental flexibility, consideration is being given to provision of an auxiliary light source. This source will be monochromatic but not as coherent as the laser. It may be found easier to make filters for the spectrum plane while using only partly coherent light.

During the next month optical and mechanical assembly will begin, the control system design will be completed and briefing material will be sent to the customer.

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Declass Review by NIMA / DoD

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13 January 1964

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COHERENT LIGHT ENLARGER AND SPATIAL FILTER

7th Progress Report: 12 December 1963 to 10 January 1964

A trip to the customer's facility resulted in clarification of the customer's requirement in regard to a data chamber. The amount of data required to be reproduced is much greater than anticipated and requires an unusual (optical) arrangement in order to permit manipulation from the operator's console. Other items requested by the customer will be attended to in the period following release of the last drawings.

Design is now complete and most drawings released except for three areas. These are: 1. Mounting of the air knives and ventilating system; 2. mounting of sheet metal covers around the optics, and 3. electrical controls. All long lead items have been ordered.

Long cell and mount castings have been received and sent out for machining. A growing number of machined parts have been completed and are being stored pending assembly. The pipe-channel main structure has been completed and received.

Broadboard experimentation has included enlargements of high resolution scenes, testing of various grades of diffusers, additional comparison of laser and optimum incandescent sources and completion of work with the "Focatron".

During the next month the **emphasis** will fall on electrical controls, design of covers and sub-assembly of mechanical components.

In all respects but one progress on this project has been satisfactory. The exception, unfortunately, has to do with optical manufacturing and the predicted delay in such as to be beyond complete compensation by increased efforts in other areas. This delay is currently predicted as four weeks which will undoubtedly affect the delivery date, if any rework is required.

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WBM
29 Jan '64

This is still lacking in technical quantitative information

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8 Feb 64